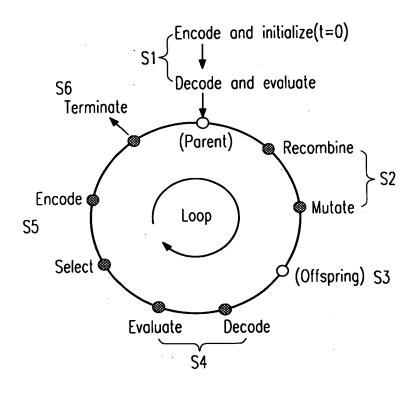
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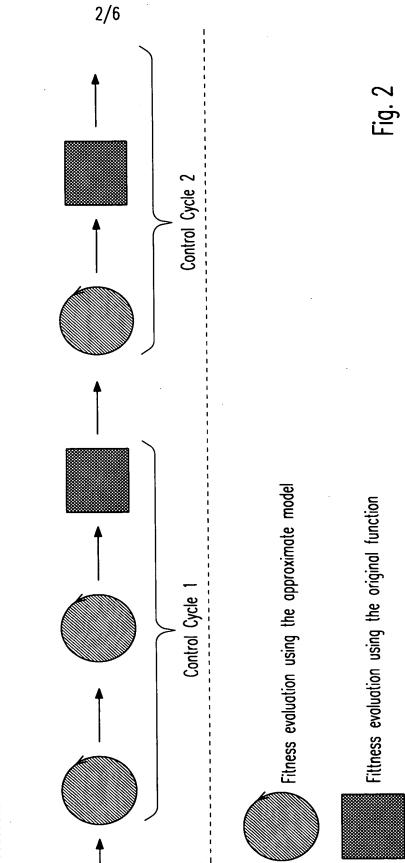
```
Algorithm

t:=0;
encode and initialize P(0)
decode and evaluate P(0)
do
recombine P(t)
mutate P(t)
decode P(t)
evaluate P(t)
P(t+1) = select (P(t)
encode P(t+1)
t:=t+1
until terminate
```

Fig. 1

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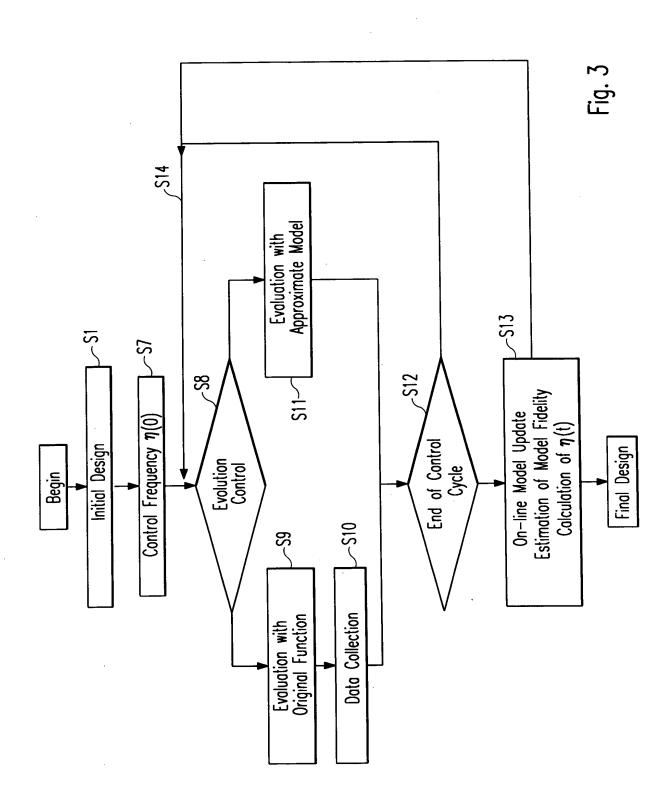
Express Mail Label No. EL566290443US Title: APPROXIMATE FITNESS FUNCTION Inventors: Yaochin Jin et al. Atty. Docket No.: 6445 Sheet 2 of 6



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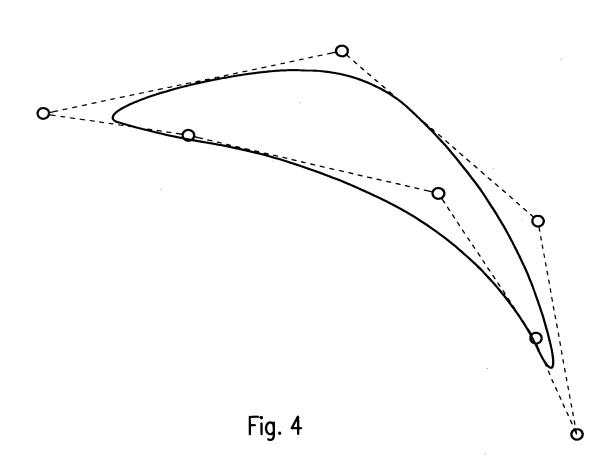
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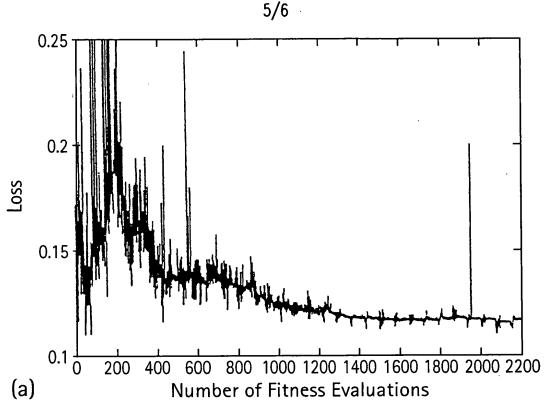
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Inventors: Yaochin Jin et al.

Atty. Docket No.: 6445

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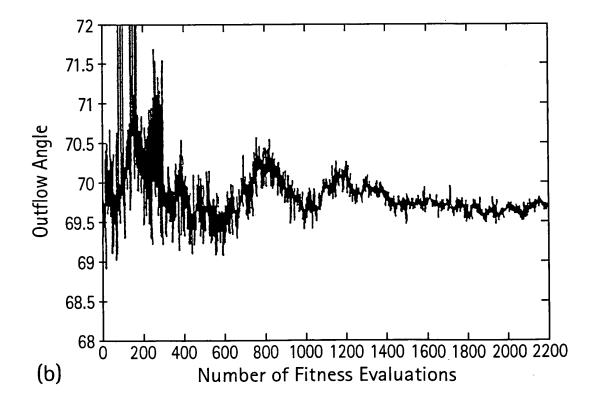
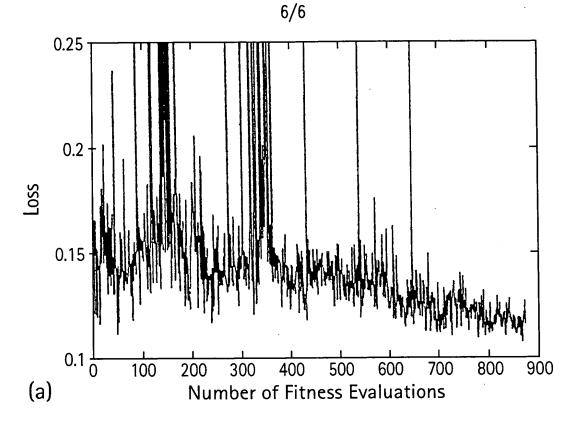
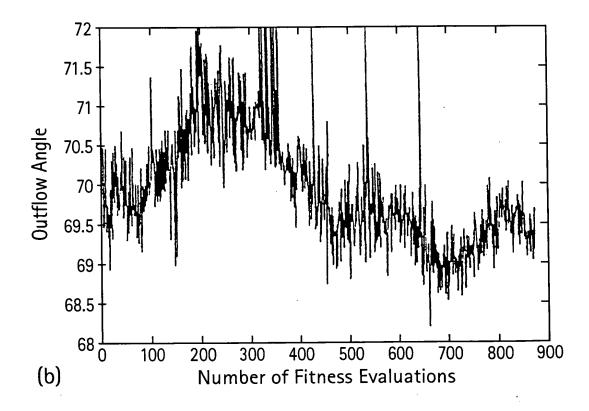


Fig. 5 Blade optimization with approximate models (a) Pressure loss (b) Outflow angle.

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Blade optimization with approximate models (a) Pressure loss Fig. 6 (b) Outflow angle.